

Recovery Plan Action Status

Plan Name: California Freshwater Shrimp (*Syncaris pacifica* Holmes) Recovery Plan

Plan Status: Final

Plan Date: 31-Jul-98

Lead Agency: USFWS

Lead Office: Sacramento Fish And Wildlife Office

(916)

414-6600)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
California freshwater shrimp (<i>Syncaris pacifica</i>)	1	1.1.1.	Continue to determine the extent, nature, and trend of agricultural threats.	Not Started			County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, University of California Cooperative Extension Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners, Natural Resources Conservation Service	Research: Environmental Contaminants	Internal Field Assistance	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (<i>Syncaris pacifica</i>)	1	1.1.2.	Develop and implement best management practices to maintain riparian communities	Ongoing Current	FY 1995 - FY 1999		County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, University of California Cooperative Extension Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners, Natural Resources Conservation Service	Management: Planning	Contract	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	1.1.3.	Develop and implement best management practices to protect shrimp from agricultural chemicals.	Not Started			County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, University of California Cooperative Extension Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Environmental Protection Agency, Private landowners, Natural Resources Conservation Service	Management: Planning	Contract	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.1.4.	Develop and implement measures to ensure agricultural diversions do not take shrimp or habitat.	Not Started			California State Lands Commission, California State Water Resources Control Board, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Planning	Contract	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	1.1.5.	Develop and implement measures to reduce unnatural rates of sediment deposition in streams.	Ongoing Current			County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, University of California Cooperative Extension Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners, Natural Resources Conservation Service	Management: Planning	Contract	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	1.10.1.	Identify locations with high concentrations of introduced predators.	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research: Migration	Contract	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	1.10.2.	Develop and implement measures to reduce predation on shrimp.	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Predator and Competitor Control	Contract	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	1.2.1.	Continue to determine the extent and nature of threats to shrimp from livestock grazing and dairy operations.	Not Started			County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, University of California Cooperative Extension Service, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners, Natural Resources Conservation Service	Research: Management Techniques	Species Expert	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.2.2.	Develop and implement best management practices for livestock operations.	Ongoing Current	FY 1995 - FY 1999		County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, University of California Cooperative Extension Service, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners, Natural Resources Conservation Service	Management: Planning	Contract	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	2	1.3.1.	Continue to determine the extent and nature of timber harvest threats to shrimp.	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, Private landowners	Research: Management Techniques	Graduate Student	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	1.3.2.	Develop and implement best management practices for timber harvest.	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, Private landowners	Management: Planning	Contract	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	1.4.	Prevent adverse impacts to shrimp from gravel mining operations.	Not Started			CDOC Division of Mines and Geology, County governments, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Other: Regulations	Internal Technical Assistance	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.5.1.	Continue to determine the extent and nature of water development threats.	Not Started			County governments, California State Water Resources Control Board, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research	Contract, Graduate Student	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	1.5.2.	Mitigate adverse impacts of water activities on shrimp habitat and populations.	Not Started			County governments, California State Water Resources Control Board, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Other: Regulations	Internal Field Assistance	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.6.	Remove existing summer impoundments in streams with shrimp and prevent future instream impoundments.	Ongoing Current	FY 1995 - FY 1999		California State Lands Commission, County governments, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Habitat Maintenance and Manipulation	Contract, Internal Technical Assistance	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.7.1.	Continue to determine the extent and nature of urban runoff and wastewater threats to shrimp.	Not Started			City governments, County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Environmental Protection Agency, Private landowners	Research: Environmental Contaminants	Contract, Graduate Student	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	1.7.2.	Develop and implement best management practices for wastewater discharge.	Ongoing Current	FY 1995 - FY 1999		City governments, County governments, North Coast Regional Water Quality Control Board, Resource conservation districts, San Francisco Bay Regional Water Quality Control Board, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Environmental Protection Agency, Private landowners	Management: Land Use, Management: Planning	Contract, Graduate Student, Internal Field Assistance	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.8.1	Continue to determine the extent of flood control and bank protection threats to shrimp.	Not Started			California State Lands Commission, City governments, County governments, North Coast Regional Water Quality Control Board, San Francisco Bay Regional Water Quality Control Board, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research	Contract, Graduate Student	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	1.8.2.	Develop and implement mitigation measures for flood control and bank protection projects.	Not Started			California State Lands Commission, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game	Management: Land Use, Management: Planning	Internal Field Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	2	1.9.	Develop and implement measures to remove unnatural barriers, where feasible, to facilitate upstream and downstream passage of shrimp.	Not Started			California State Lands Commission, City governments, County governments, North Coast Regional Water Quality Control Board, San Francisco Bay Regional Water Quality Control Board, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Habitat Maintenance and Manipulation, Management: Planning	Contract, Graduate Student, Internal Field Assistance	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	10	Assemble a California freshwater shrimp recovery team.	Not Started			U.S. Fish and Wildlife Service	Other: Administration	Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	2.1.	Identify locations for habitat restoration.	Not Started			California Coastal Conservancy, County governments, Resource conservation districts, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Environmental Protection Agency, Private landowners	Other	Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	2.2.	Develop and implement habitat restoration plans.	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Environmental Protection Agency	Management: Habitat Maintenance and Manipulation, Management: Planning	Contract, Graduate Student, Internal Field Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	3.1.	Obtain long-term habitat protection.	Not Started			California Department of Parks and Recreation, California State Lands Commission, County governments, California State Water Resources Control Board, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Management Agreement	Internal Field Assistance, Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	3.2.	Enforce applicable local, State and Federal laws, regulations, and policies to protect the shrimp and its habitat.	Ongoing Current	FY 1995 - FY 1999		California State Lands Commission, County governments, California State Water Resources Control Board, San Francisco District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Environmental Protection Agency	Other: Regulations	Internal Field Assistance, Internal Technical Assistance	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	4.1	Develop a routine and comprehensive habitat monitoring plan.	Not Started			U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game	Management: Planning	Contract, Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	4.2.	Implement a habitat monitoring plan.	Not Started			U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Habitat Maintenance and Manipulation, Research: Habitat Status	Contract, Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	2	4.3.	Develop a routine and comprehensive population monitoring plan for shrimp.	Not Started			U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game	Management: Planning	Contract, Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess. A monitoring program is being conducted annually at Lagunitas Creek by Larry Serpa, funded by GGNRA.
California freshwater shrimp (Syncaris pacifica)	2	4.4.	Implement a population monitoring plan.	Not Started			California Department of Parks and Recreation, County governments, Resource conservation districts, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Contract, Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	4.5.	Develop a database to collect, store, analyze, and exchange monitoring information.	Not Started			U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game	Other: Information and Education	Contract, Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	4.6.	Develop and implement survey training programs for biologists.	Not Started			U.S. Fish and Wildlife Service	Other: Information and Education	Internal Field Assistance, Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	2	5	Assess effectiveness of various conservation efforts for shrimp.	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Management Techniques	Contract, Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	6.1.1.	Determine characteristics of refugia for shrimp.	Not Started			U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	1	6.1.2.	Obtain information regarding feeding ecology.	Not Started			U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	1	6.2.	Identify population characteristics and reproductive ecology.	Not Started			U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	6.3.	Characterize shrimp dispersal capabilities and the environmental and habitat characteristics necessary for movement.	Not Started			U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	6.4.	Develop protocol for a captive propagation program.	Not Started			U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Propagation	Internal Technical Assistance, Species Expert	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	7	Restore and maintain viable shrimp populations at extirpated localities.	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Reintroduction	Internal Field Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	8.1.	Develop and implement participation plans to protect enhance, and restore stream and riparian habitats.	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, To be determined	Management: Habitat Maintenance and Manipulation, Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.

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California freshwater shrimp (Syncaris pacifica)	3	8.2.	Support, produce, and conduct public outreach programs.	Not Started			U.S. Fish and Wildlife Service	Other: Information and Education	Internal Administrative, Internal Field Assistance, Species Expert	Although not begun specifically for shrimp. This type of action has been done for co-existing species and the CA Fresh H2O Shrimp has benefitted. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	9.1.	Monitor cohabiting, native species.	Ongoing Current	FY 1995 - FY 1999		U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research: Population Surveys	Contract, Graduate Student	Default to RP date. Information regarding lead entity did not come from the Recovery Plan. It is a best guess.
California freshwater shrimp (Syncaris pacifica)	3	9.2.	Implement remediation where appropriate.	Not Started			U.S. Fish and Wildlife Service, To be determined	Other: Law Enforcement	Internal Field Assistance, Internal Technical Assistance	Information regarding lead entity did not come from the Recovery Plan. It is a best guess.